

medical sciences notes

X-RAYS

Device narrows beam

Greater safety is expected during X-ray examinations as a result of the development of a device by the Public Health Service's National Center for Radiological Health. The Department of Health, Education and Welfare has applied for a patent on it.

The device can be used to reduce X-ray beam widths to film size or smaller. It also can maintain constant beam size as the distance is varied between the film and the X-ray tube. Without this capability, the X-ray beam would widen as the distance is increased.

The center director, James G. Terrill Jr., says the servo system used by the center's beam control employs mechanisms that sense X-ray film dimensions for diagnosis, as well as detect variations in film-to-tube distance. This information is transmitted to a small motor that drives lead shutters to restrict the beam to narrow widths, thus minimizing a patient's exposure.

TOBACCO

Agricultural research grants

Two grants related to the health effects of tobacco have been awarded to research scientists in different parts of the country by the U.S. Department of Agriculture's Agricultural Research Service.

At the University of Kentucky in Lexington, Dr. Raymond E. Hampton will direct investigations under a two-year \$85,065 grant to determine what happens to polyphenols in tobacco during air curing. Polyphenols are among the compounds suspected of having an adverse effect on man.

In Buffalo, N.Y., at Health Research Inc., scientists will perform bioassays on smoke condensates from cigarettes made from different varieties of tobacco produced and cured by various methods.

Dr. Fred G. Bock will direct the four-year study, which will involve applying the smoke condensates obtained from a smoking machine to the backs of test animals, after which autopsies, including tissue examinations, will be performed to estimate the effects.

RADIOACTIVE CHROMIUM

Treatment destroys tumors

An implantation gun that shoots radioactive chromium into cancer tumors, destroying them without harming normal body tissue, is being used by physicians at the University of Chicago.

The procedure is being conducted in the Argonne Cancer Research Hospital, which is operated by the university for the U.S. Atomic Energy Commission. Dr. Melvin L. Griem and Dr. Paul V. Harper Jr., research leaders, have had good results in 18 of 25 patients.

KIDNEY TRANSPLANTS

High success in Australia

The world's highest success rate for kidney transplants is claimed by the Royal Melbourne Hospital in Mel-

bourne, Australia. A medical team there has performed these grafts on 48 seriously ill patients, and 37 of them are alive and leading normal lives.

The hospital's medical superintendent, Dr. T. J. K. Jamieson, says they are a landmark in medical history. He predicts that in five or 10 years the vast majority of the Melbourne kidney transplants will be successful.

Between 300 and 400 persons a year in Australia need this transplant, and Dr. Jamieson believes hospitals will soon be operating on all of them.

In centers around the world it is estimated that about 1,200 kidney transplants have been performed. At Peter Bent Brigham Hospital in Boston, where Dr. Joseph E. Murray and a Harvard University team pioneered the technique in the mid 50's, a computer study is under way to determine the number of patients who have survived.

APPENDICITIS

X-ray shows delayed diagnosis

Two Army radiologists in Long Binh, South Vietnam, found X-ray studies valuable in making a diagnosis of acute appendicitis in five young soldiers admitted to an evacuation hospital during a five-month period.

The men had been reluctant to complain of illness, Major Preston B. Mayson Jr., and Captain Sheldon J. Rosenthal of the 93rd Evacuation Hospital say in the June issue of the *THE AMERICAN JOURNAL OF ROENTGENOLOGY, RADIUM THERAPY AND NUCLEAR MEDICINE*.

One GI suffered abdominal pain for several months, and all had ruptured appendices and gangrene. They had each formed an abscess with intestinal obstruction, detectable by X-ray study.

The radiologists say soldiers don't report stomach pains, thinking them to be a sign of weakness. Some men think they are caused by local food or drink, or even anti-malarial tablets.

CANCER

Hormonal treatment used

Endometrial carcinoma, a malignancy of the lining of the uterus, can be treated successfully in many patients by surgical removal of the organ, radiation, or both, provided the cancer is confined to the womb.

However, until the introduction of progestogen therapy a type of hormone injections, the control of the disseminated disease has been inadequate.

Dr. B. J. Kennedy of the University of Minnesota Medical Center in Minneapolis reports regression of the cancer spread in 19 of 75 patients treated with synthetic progestogens—the treatment of choice.

His findings and a review of previous research by others are published in the July issue of *SURGERY, GYNECOLOGY & OBSTETRICS*, official scientific journal of the American College of Surgeons.

Several researchers have noted that the response to progestogen treatment has been best in patients with pulmonary metastases. In a collective study of 151 patients, it was noted that 35 percent of those with lung spread improved more than those with other metastases. Pelvic metastases responded least, the lack of response being linked to previous radiation.